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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,818	12/11/2003	Regis Lardennois	P08130US00/RFH	5884

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EXAMINER

HERRERA, DIEGO D

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/732,818

Applicant(s)

LARDENNOIS ET AL.

Examiner

Diego Herrera

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/11/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/11/2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on May 5, 2004 has being considered by the examiner and made of record in the application file.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: In FIG. 2 the label "CRDU" is not define in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: page 1, line 18, "**EP-A-0 838 965**" needs to be "**FR 0 838 965 A1**". Page 4, line 24, "**The or each...**" needs to be corrected by revision of content or by omitting "**The or**". Page 6, line 16, a coma is needed, to avoid a run-on sentence, between the word "**cell**" and "**take**", and an "**s**" is needed at the end of the word "**take**" after the coma is placed to make such correction previously mentioned. Page 8, on the time frame table, across the title of "**Data frames (wayside to train)**", the word "**bit**" needs an "**s**" at the end to stay consistent and grammatically correct.

Appropriate correction is required.

Claim Objections

5. Claim 6 objected to because of the following informalities: The article "**the**" train" implies reference to a previously disclosed "train" in the claims previous to claim 6, but there is no evidence of such occurrence. Thus, to correct the error the article "**the**" needs to be removed and the article "**a**" train" needs to take its place.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3 rejected under 35 U.S.C. 103(a) as being unpatentable over Maki et al. (U.S. patent #: 5,901,144) in view of Andersson et al. (U.S. patent #: 5,530,917).

Regarding claim 1, Maki et al. discloses a cellular system (**FIG. 4**) for transmitting information by radio (Abstract "accommodating a plurality of mobile stations through **radio transmission channels**") between and infrastructure and mobiles constrained to travel on a determined path, the infrastructure comprising stationary transceiver stations (**FIG. 4, base stations (400a)-(400c)**) distributed along the path and allocated to

successive cells, and each mobile carrying a transceiver (**FIG. 4, col. 2, lines: 47- 49, note: transceiver is an inherent part of a mobile station**), the transceivers of the stationary stations and the transceiver carried by each mobile are controlled in such a manner that, while a mobile is in a given cell, exchanges between the mobile and the transceivers allocated to the cell take place in alternation during two successive radio cycles (**FIG. 4, note: downlinks and uplinks of one T period between t0 to t1 then a successive downlinks and uplinks of one T period between t1 to t2**).

However, Maki et al. does not specifically disclose two different frequencies.

In the same field of endeavor, Andersson et al. clearly shows and discloses two different frequencies (**FIG. 1b (c1) and (k1), col. 4, lines: 66, 67, col. 5, lines: 1-4**).

Therefore, it would have obvious to a person or ordinary skill in the art at the time of the invention was made to incorporate two frequencies taught by Andersson et al. for communicating between the base station and the mobile station in a given cell taught by Maki et al. for the purpose of avoiding interference signals for better performance (**as disclosed by Andersson et al. col. 5, lines: 29-32, "an attempt is made to avoid these interference signals by allocating well-separated frequencies to neighboring cells"**).

Regarding claim 2, and as applied to claim 1 above, as modified by Andersson, Maki et al. shows and discloses each cycle constituted by a plurality of short exchange frames (**FIG. 4, col. 8, lines: 20-31, note: each cycle, denoted by 'T', is constituted by a plurality of short exchange frames, that are denoted by squares called slots by Maki et al.**).

Regarding claim 3, and as applied to claim 1 above, as modified by Andersson, Maki shows using a time division multiple access mode of transmission (**FIG. 4,col. 3, line 30, "slot position" and "time-division multiplexed (TDMA) channel slots"**).

7. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Maki et al. (**U.S. patent #: 5,901,144**) in view of Andersson et al. (**U.S. patent #: 5,530,917**) and further in view of Delprat et al. (**U.S. patent #: 5,617,412**).

Regarding claim 4, Maki et al. and Andersson et al. disclose the claimed invention as applied to claim 1 above; however, they do not disclose frames containing essential information always transmitted on two frequencies in succession.

However, Delprat et al. discloses frames containing essential information always transmitted on two frequencies in succession (**col. 5, lines: 2-8, note that it is inherent that 'essential information' is being transmitted**).

Therefore, it would have obvious to a person of ordinary skill in the art at the time of the invention was made to modify the system Maki/Andersson for having frames containing essential information always transmitted on two frequencies in succession by adding Delprat for the purpose of effective communication of information with out the loss of essential frames of data (**col. 5, lines: 2-10, note it is by inherency that 'essential information' will be transmitted**).

8. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Maki et al. (**U.S. patent #: 5,901,144**) in view of Andersson et al. (**U.S. patent #: 5,530,917**) and further in view of Anderson et al. (**U.S. patent #: 6,094,575**).

Regarding claim 5, Maki et al. and Andersson et al. disclose the claimed invention as applied to claim 1 above; however, they do not disclose a pair of frequencies used in a cell that is constituted by two frequencies that are different from the frequencies used in the adjacent cells.

However, Anderson et al. discloses a pair of frequencies used in a cell that is constituted by two frequencies that are different from the frequencies used in the adjacent cells (**col.6, lines: 31-39**).

Therefore, it would have obvious to a person or ordinary skill in the art at the time of the invention was made to modify the system Maki/Andersson to include a pair of frequencies used in a cell that is constituted by two frequencies that are different from the frequencies used in the adjacent cells by adding Anderson for the purpose of minimizing the interference between adjacent cells (**col. 6, lines: 38-39**).

9. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Maki et al. (**U.S. patent #: 5,901,144**) in view of Andersson et al. (**U.S. patent #: 5,530,917**) and further in view of Kojima et al. (**U.S. patent #: 5,323,446**).

Regarding claim 6, Maki et al. and Andersson et al. disclose the claimed invention as applied to claim 1 above; however, they do not disclose a protocol for allocating time slots when entering a cell by a base station in response to sending an entry identification to the base station.

However, Kojima et al. discloses TDMA (**col. 2, line: 5**) and a protocol for allocating time slots (**col. 2, lines: 6-12**) when entering a cell by a base station in response to sending an entry identification (**Fig. 1, note the base station areas (30₁-**

30_n) are being interpreted as the cell areas, note that the word 'threshold' is interpreted by examiner as 'entry identification', Abstract: "a threshold to determine whether a handoff is to be performed to a second, adjacent base station (cell).") to the base station.

Therefore, it would have obvious to a person or ordinary skill in the art at the time of the invention was made to modify the system Maki/Andersson by having TDMA and a protocol for allocating time slots when entering a cell by a base station in response to sending an entry identification by adding Kojima for the purpose of access to the wayside base station to start or continue communication in a remote way (**col. 2, lines: 18-25**).

10. Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Maki et al. (**U.S. patent #: 5,901,144**) in view of Andersson et al. (**U.S. patent #: 5,530,917**) and further in view of Kojima et al. (**U.S. patent #: 5,323,446**) as applied to claim 6 above and further in view of Bruckert et al. (**U.S. patent #: 5,548,808**).

Regarding claim 7, the combination Maki/Andersson/Kojima disclosed a system according to claims 1 and 6:

The combination Maki/Andersson/Kojima does not disclose an exit from a cell is detected by a repeated failure of a response to a request made by the base station.

Bruckert discloses an exit from a cell that is detected by a repeated failure of a response to a request made by the base station (**Abstract: "the power of a first signal is measured and is compared with a threshold...if the first or second signal (up and down link) fails to meet the handoff threshold, the first or second,**

respectively, will discontinue serving the subscriber.” note threshold request and the lack of response will determine the end of information being transmitted by a cell to a mobile unit, this is interpreted by the examiner to mean ‘the exit’.)

Therefore, it would have obvious to a person or ordinary skill in the art at the time of the invention was made to modify the system Maki/Andersson/Kojima to have an exit from a cell that is detected by a repeated failure of a response to a request made by the base station by adding Bruckert for the purpose of completing transaction of information between the cell and mobile thus avoiding poor quality of signal range and quality of information (**Abstract: ‘will discontinue serving the subscriber’**).

11. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Maki et al. (**U.S. patent #: 5,901,144**) in view of Andersson et al. (**U.S. patent #: 5,530,917**) as applied to claim 1 and further in view of Lardennois (**U.S. patent #: 5,995,845**).

Regarding claim 8, the combination of Maki/Andersson disclosed a system according to claim 1:

The combination Maki/Andersson does not disclose, the train has two car radio units, one placed at the front and the other placed at the back, and designed to enable the two units to be handed over from one cell to another independently and in succession.

Lardennois discloses the train has two car radio units, one placed at the front and the other placed at the front and the other placed at the back, and designed to enable the two units to be handed over from one cell to another independently and in succession (**col. 2, lines 4-10**).

Therefore, it would have obvious to a person or ordinary skill in the art at the time of the invention was made to modify the system Maki/Andersson for the train to have two car radio units, one placed at the front and the other placed at the placed at the back, and designed to enable the two units to be handed over from one cell to another independently and in succession by adding Lardennois for the purpose of tolerating possible failure of one the transmitter/receiver (**col. 2, lines: 18-25**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diego Herrera whose telephone number is (571) 272-0907. The examiner can normally be reached on Mon-Fri, 7AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William G. Trost can be reached on (571) 272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cc: DDH



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